



(12) **United States Patent**  
**Bond**

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- (54) **BUILDING SYSTEM**
- (71) Applicant: **Arthur H. Bond**, Plantation, FL (US)
- (72) Inventor: **Arthur H. Bond**, Plantation, FL (US)
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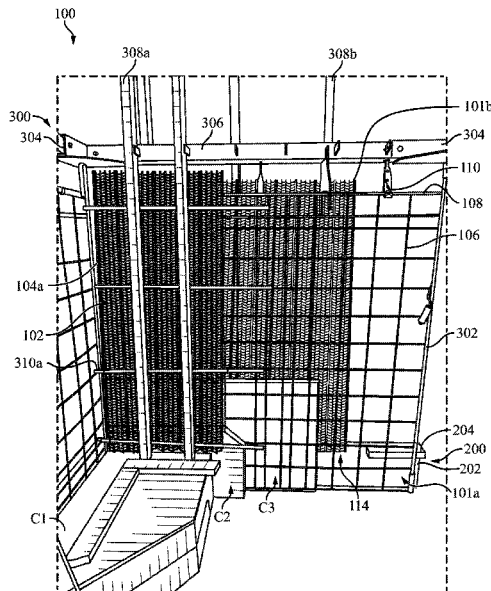
*Primary Examiner* — Brian D Mattei  
*Assistant Examiner* — Joseph J. Sadlon  
 (74) *Attorney, Agent, or Firm* — The Rapacke Law Group, P.A.; Andrew S. Rapacke

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- (58) **Field of Classification Search**  
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(57) **ABSTRACT**  
 A building system and method of using the same may include a wall assembly including a plurality of expanded metal mesh sheets disposed on either side of at least one welded wire mesh sheet. The wall assembly may be disposed in a keyway defined by a foundation assembly including a plurality of form boards. The foundation assembly may be constructed and arranged for framing out a slab, wall, or structure. The building system may further include a framing assembly including a plurality of vertical supports spaced away from one another and being constructed and arranged to connect to a support header and plurality of spans such that a structure or wall may be formed within the framing assembly. Material, such as concrete, maybe poured between the plurality of expanded metal mesh sheets to form a slab, wall, or structure.

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**13 Claims, 9 Drawing Sheets**



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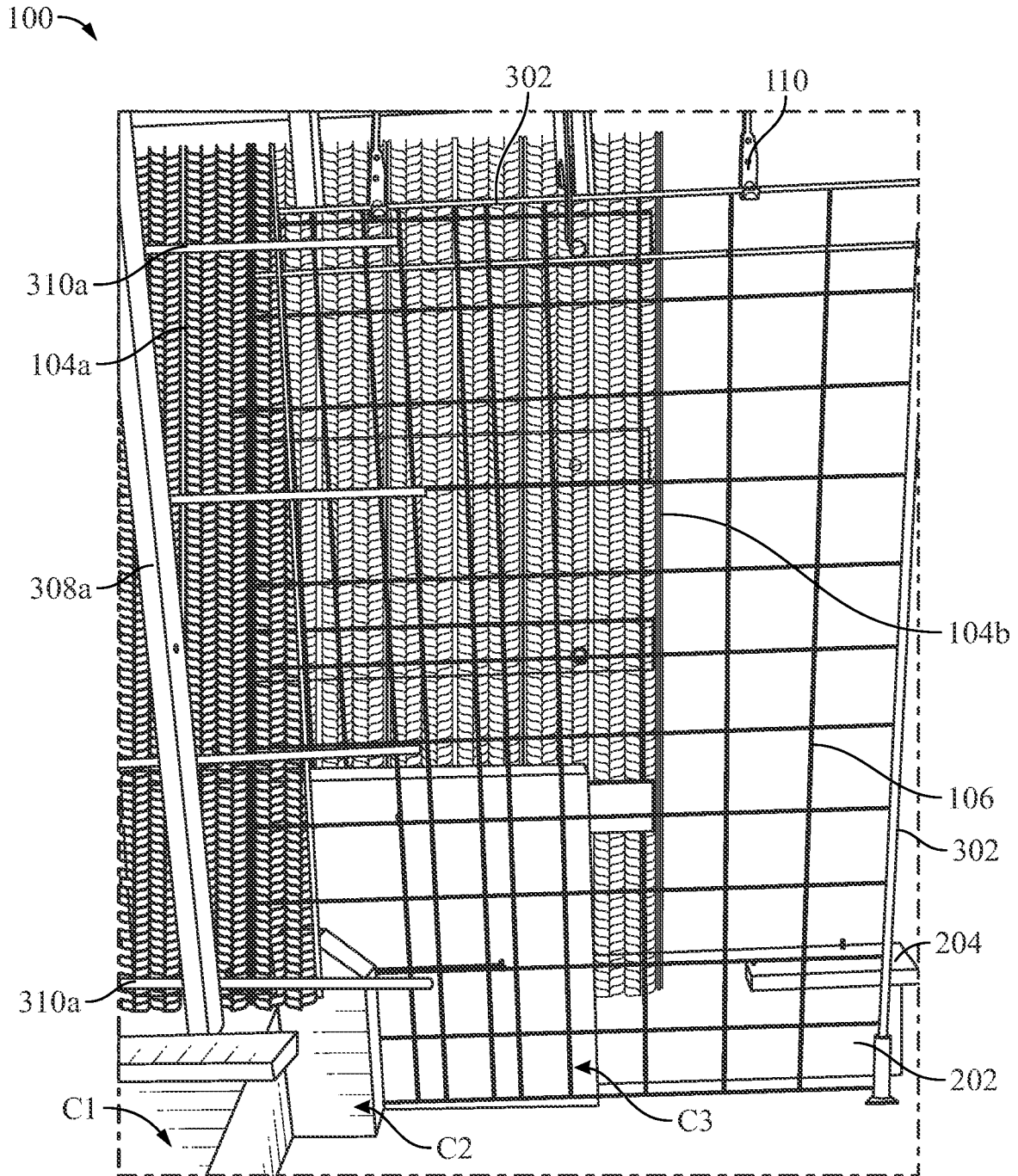


FIG. 2

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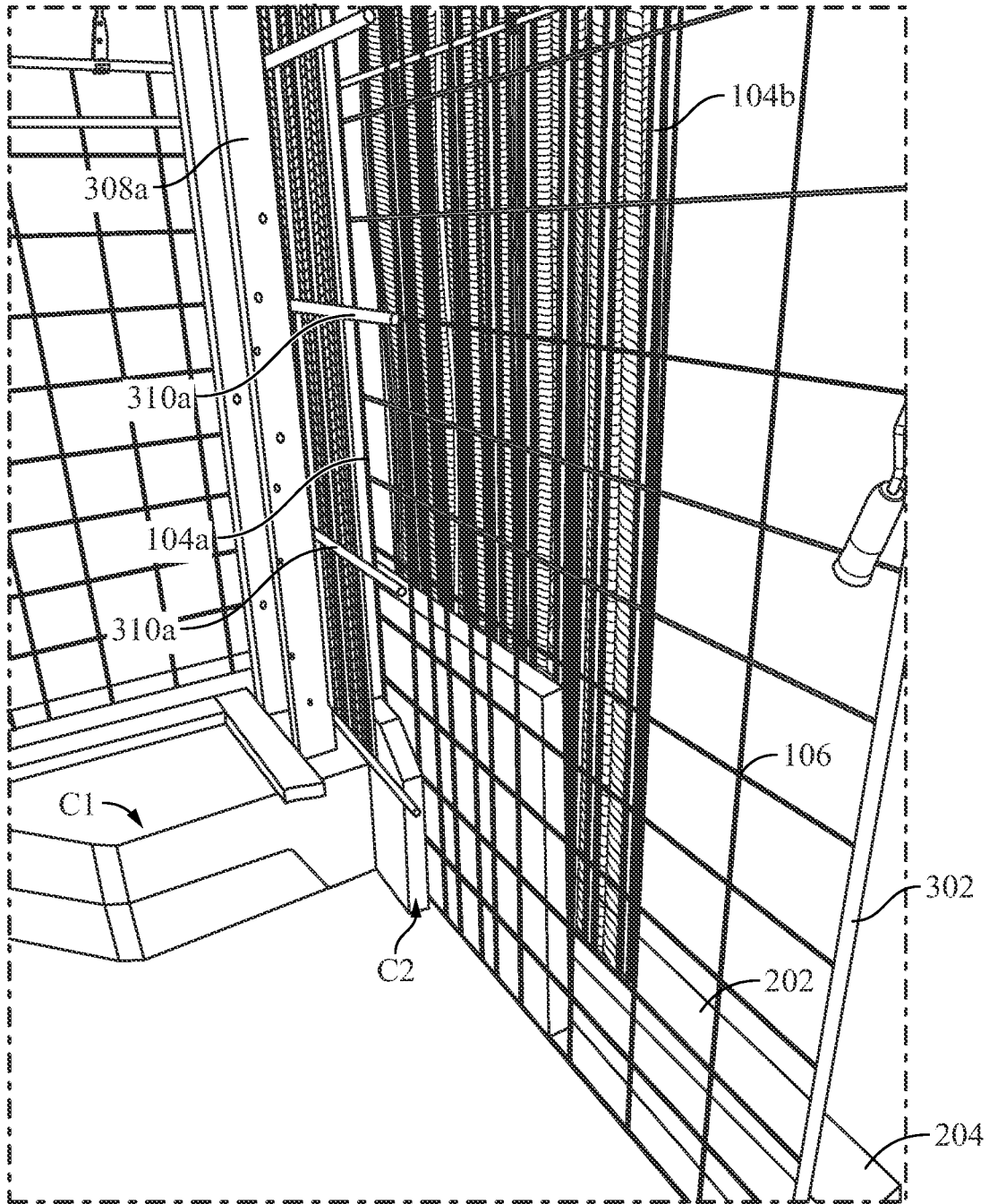


FIG. 3

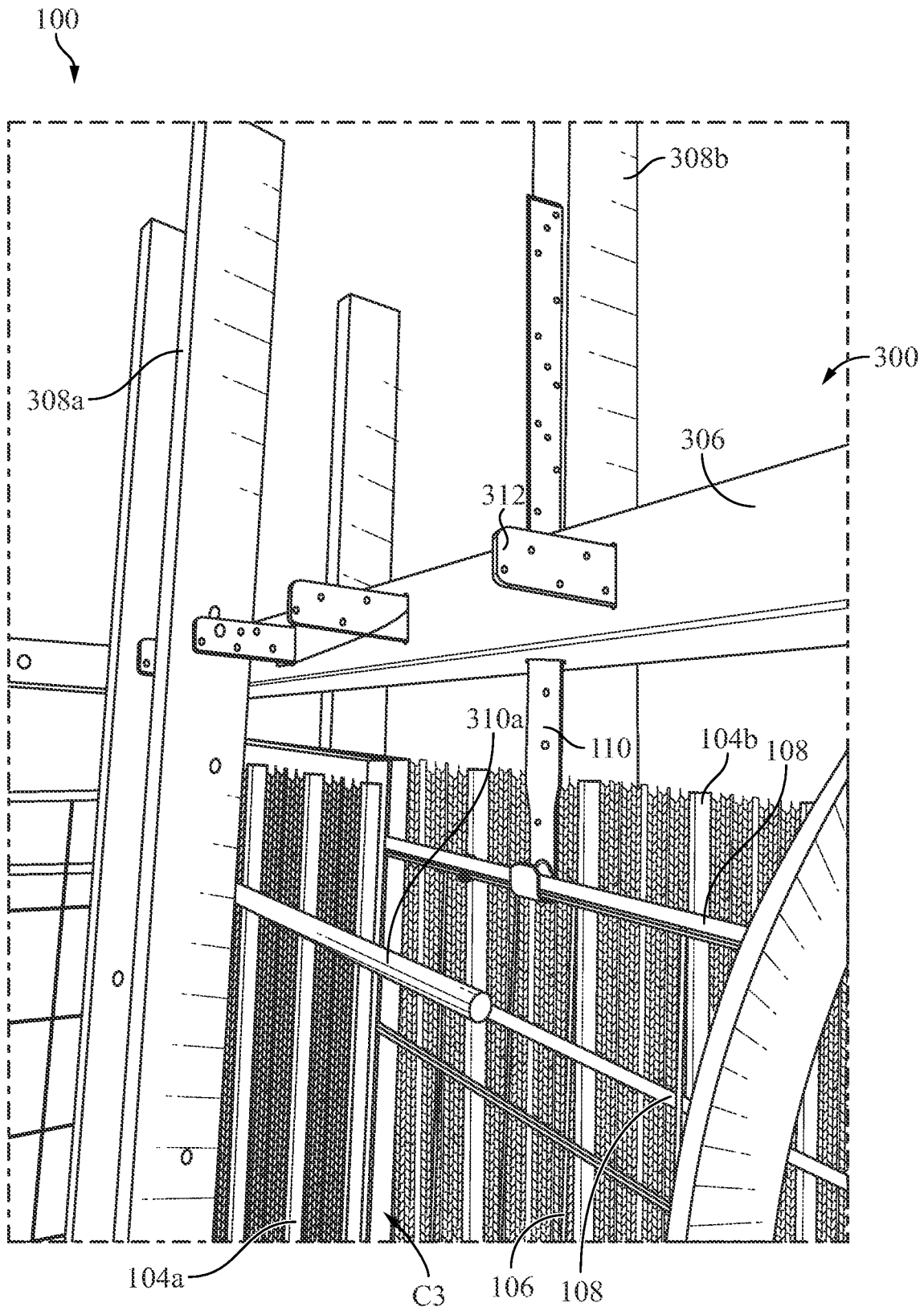


FIG. 4

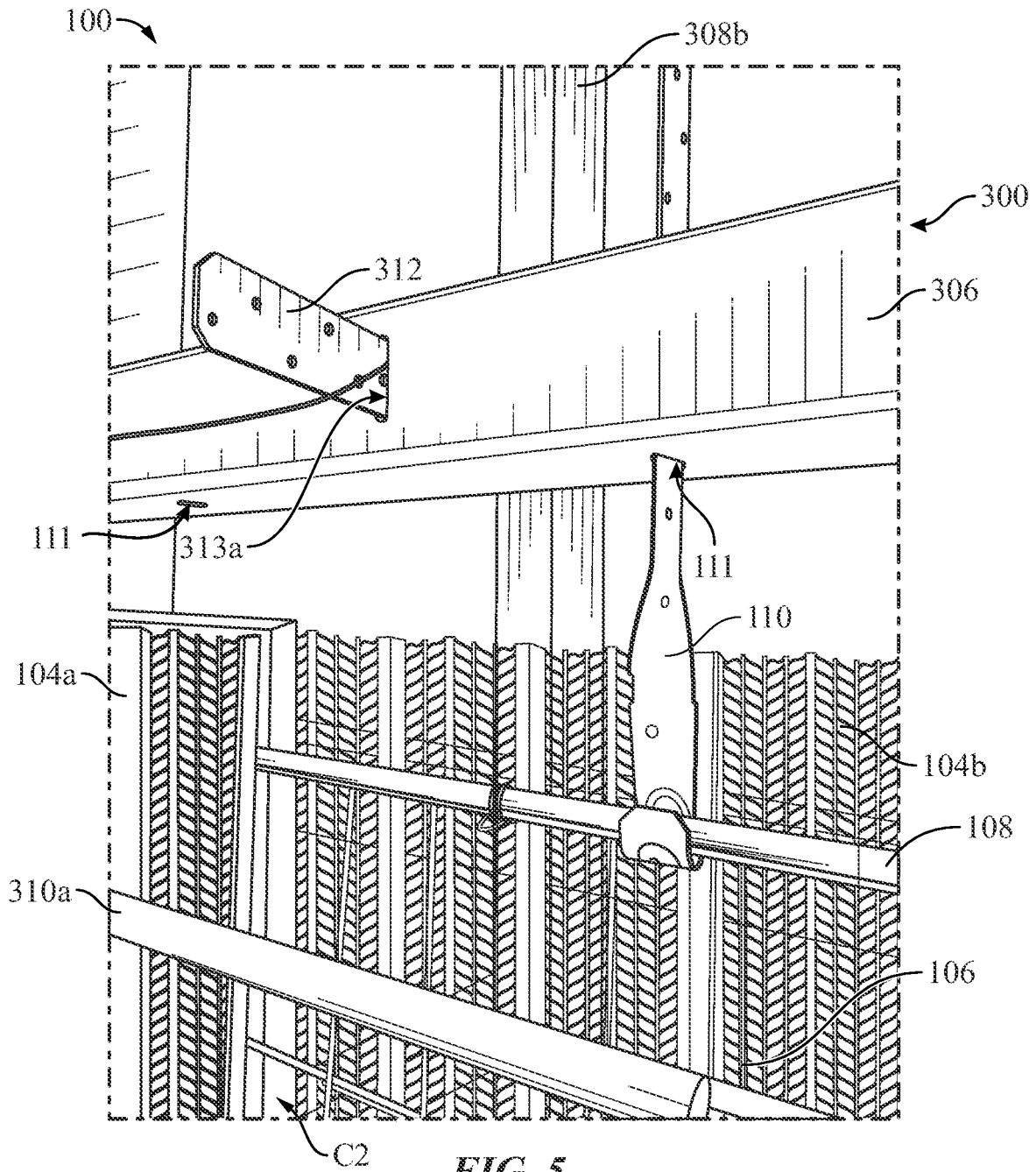


FIG. 5

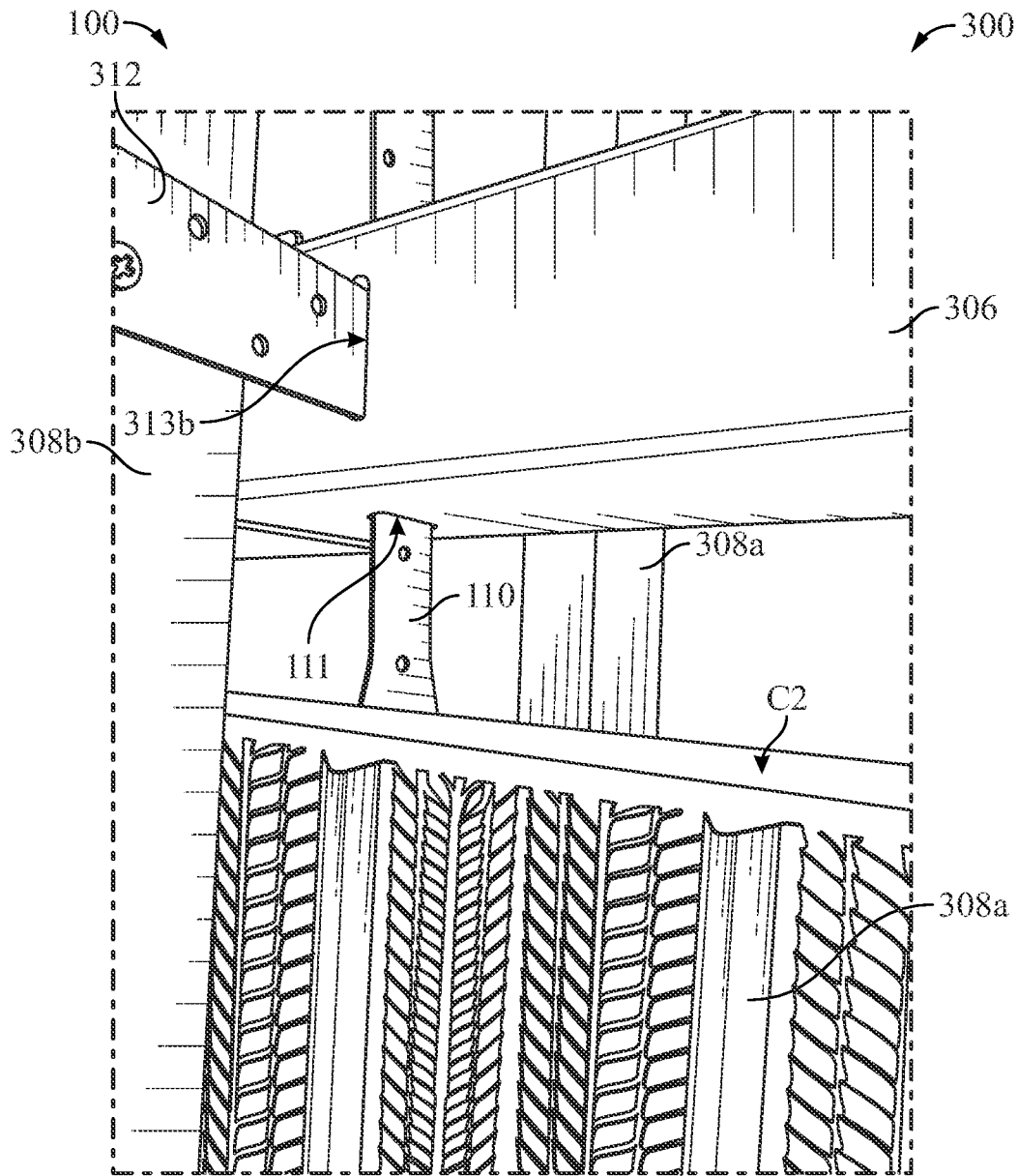


FIG. 6

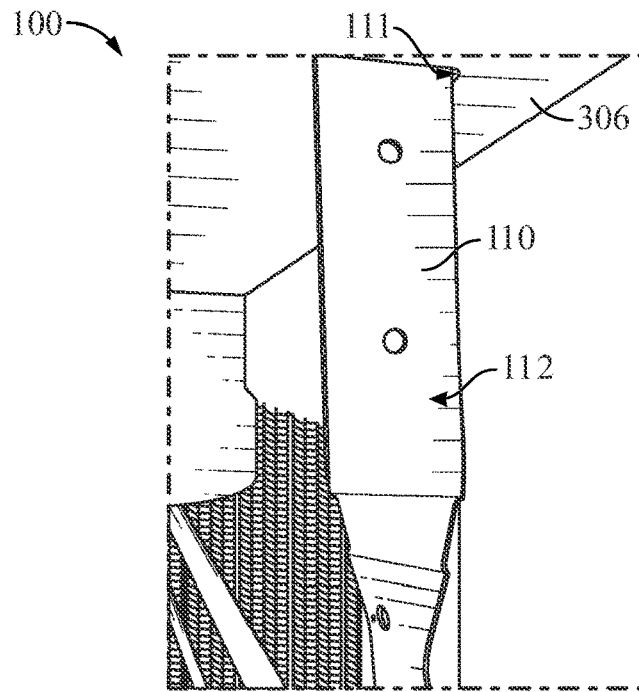


FIG. 7

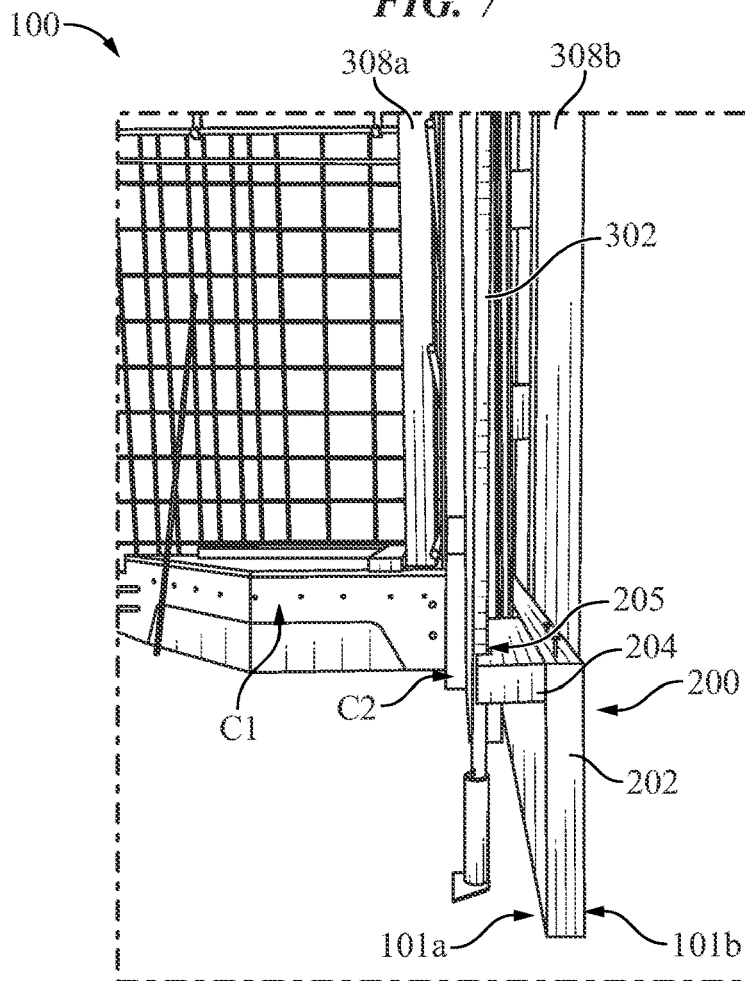


FIG. 8

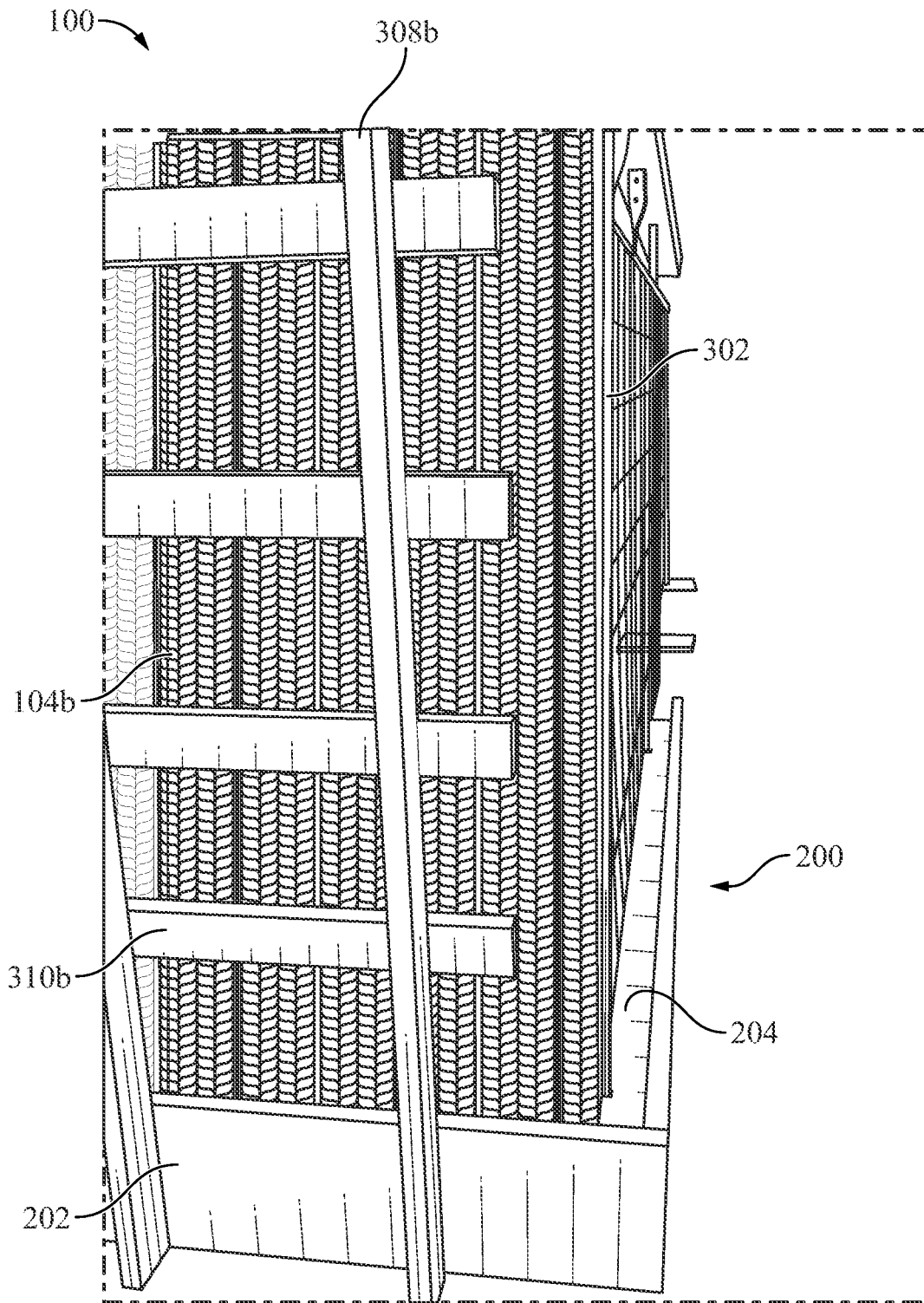
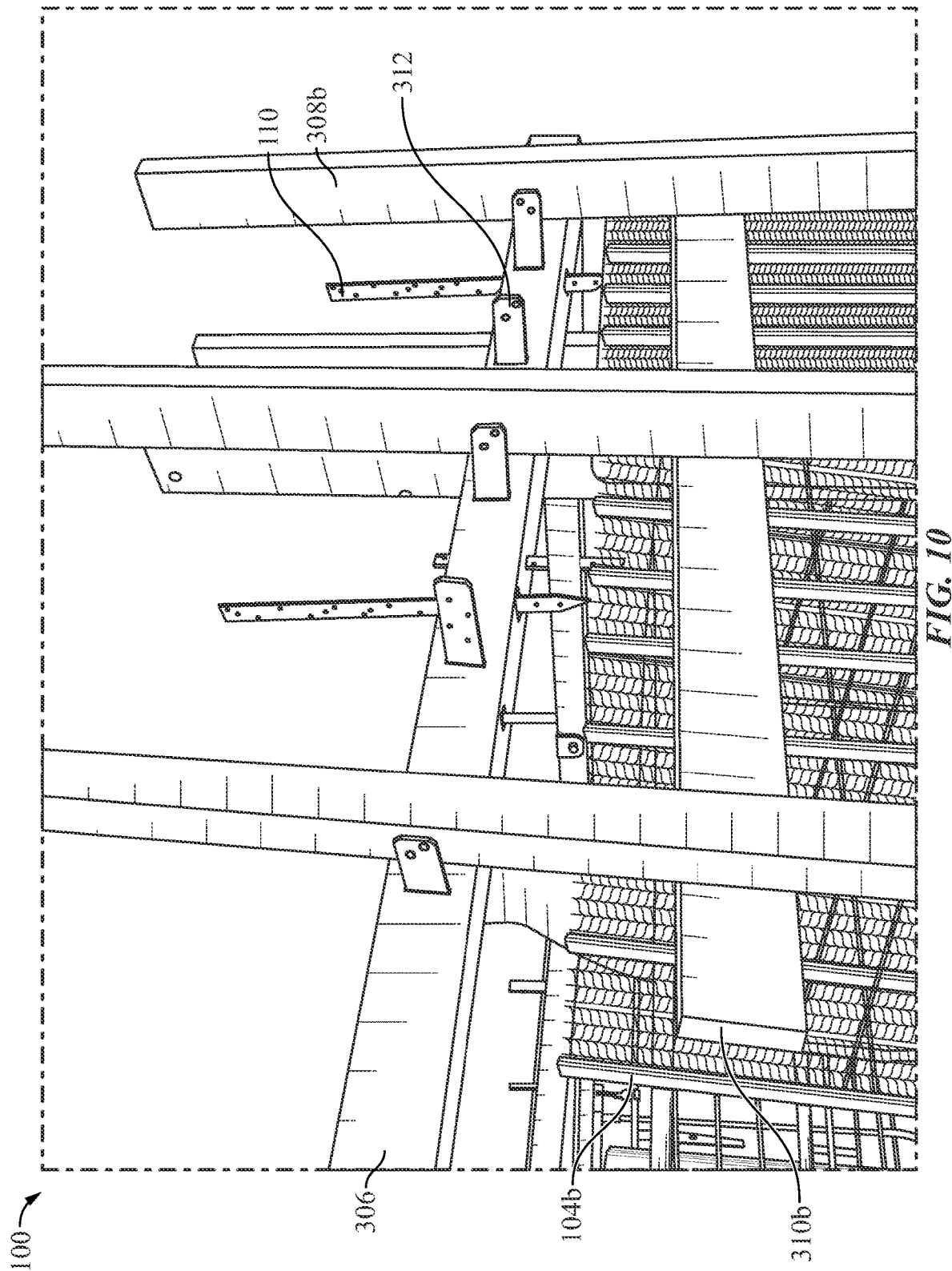


FIG. 9



# 1

## BUILDING SYSTEM

### CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application No. 63/115,166 filed Nov. 18, 2020 and which is incorporated herein by reference.

### TECHNICAL FIELD

The present disclosure relates to a building system and method for constructing a structure having a plurality of vertical sidewalls.

### BACKGROUND

Systems and methods utilized for forming structures fail to provide flexible means for constructing walls or structures in a module manner having adequate vertical and horizontal support throughout the entire construction process in addition to having the capacity to install materials such as pouring concrete in an efficient manner. Systems and methods utilized for forming structures also fail to provide modular building systems that are easy to assemble prior to forming a structure and easy to disassemble after the structure has formed.

### BRIEF DESCRIPTION OF THE DRAWINGS

A complete understanding of the present embodiments and the advantages and features thereof will be more readily understood by reference to the following detailed description, appended claims, and accompanying drawings, wherein:

FIG. 1 illustrates an interior view of a building system and method of using the same, according to some embodiments described herein;

FIG. 2 shows an interior view of a building system and method of using the same of FIG. 1;

FIG. 3 shows an oblique, interior view of a building system and method of using the same of FIG. 1;

FIG. 4 shows an oblique, interior view of a building system and method of using the same of FIG. 1;

FIG. 5 shows an enlarged view of a building system and method of using the same of FIG. 1;

FIG. 6 shows an enlarged view of a building system and method of using the same of FIG. 1;

FIG. 7 shows an enlarged view of a building system and method of using the same of FIG. 1;

FIG. 8 shows a partial side view of a building system and method of using the same of FIG. 1;

FIG. 9 shows an exterior view of a building system and method of using the same of FIG. 1; and

FIG. 10 shows an enlarged, exterior view of a building system and method of using the same of FIG. 1.

The drawings are not necessarily to scale, and certain features and certain views of the drawings may be shown exaggerated in scale or in schematic in the interest of clarity and conciseness.

### DETAILED DESCRIPTION

Reference will now be made in detail to the exemplary embodiment(s), examples of which is/are illustrated in the accompanying drawings. Whenever possible, the same ref-

# 2

erence numerals will be used throughout the drawings to refer to the same or like parts.

Before describing the exemplary embodiments, it is noted the embodiments reside primarily in combinations of components and procedures related to the apparatus. Accordingly, the apparatus components have been represented where appropriate by conventional symbols in the drawings, showing only those specific details that are pertinent to understanding the embodiments of the present disclosure so as not to obscure the disclosure with details that will be readily apparent to those of ordinary skill in the art having the benefit of the description herein.

The specific details of the various embodiments described herein are used for demonstration purposes only, and no unnecessary limitation or inferences are to be understood therefrom. Furthermore, as used herein, relational terms, such as “first” and “second,” “top” and “bottom,” and the like, may be used solely to distinguish one entity or element from another entity or element without necessarily requiring or implying any physical or logical relationship, or order between such entities or elements.

In general, a building system as disclosed herein may include a wall assembly including a plurality of expanded metal mesh sheets disposed on either side of at least one welded wire mesh sheet. The wall assembly may be disposed in a keyway defined by a foundation assembly including a plurality of form boards. The foundation assembly may be constructed and arranged for framing out a slab. The building system may further include a framing assembly including a plurality of vertical supports spaced away from one another and being constructed and arranged to connect to a support header and plurality of spans such that a structure or wall may be formed within the framing assembly.

In practice and use, a method for using the building system may include installing a plurality of form boards and attaching a keyboard to the form boards. The method may further include assembling vertical supports outside of the to-be-constructed wall or structure and installing at least one span between adjacent vertical supports and support headers. A plurality of straps including j-hooks may be disposed within each of the spans and may be constructed and arranged to receive horizontal braces within the j-hook. According to some embodiments, at least one welded wire mesh may also be suspended from the straps. The method may further include affixing horizontal braces to vertical braces prior to forming at least one slab or pouring a wall material such as concrete between a first metal mesh sheet and a second metal mesh sheet to form a wall or structure.

As shown in FIGS. 1-10, a building system 100 is provided. In various embodiments, the building system 100 comprises a foundation assembly 200, a framing assembly 300, and a wall assembly 102. In some embodiments, the building system 100 comprises an external side 101b, which corresponds to the exterior side of the wall after construction is completed, and an internal side 101a, which corresponds to the interior side of the wall after construction is completed.

In some embodiments, the wall assembly 102 comprises at least one expanded metal mesh sheets 104 and at least one welded wire mesh sheets 106. In some embodiments, the wall assembly 102 comprises a plurality (e.g., two, three, etc.) of expanded metal mesh sheets 104a, 104b, and a welded wire mesh sheet 106 sandwiched between the two expanded metal mesh sheets 104a, 104b. In some embodiments, the welded wire mesh sheet 106 and each of the expanded metal mesh sheets 104a, 104b are positioned a

spaced distance from one another as best seen in FIGS. 4 and 5. In such embodiments, the thickness of the to-be-constructed wall will be determined by the spacing between the interior expanded metal mesh sheets **104a** and the exterior expanded metal mesh sheets **104b** (the spaced distance including the welded wire mesh sheet **106** therebetween).

In some embodiments, the wall assembly **102** comprises at least one horizontal supports **108**. In such embodiments, the supports **108** are positioned laterally between adjacent vertical supports **302**. The supports **108** can be any suitable material, including, for example, steel rebar. The supports **108** are sized and shaped to lay on a j-hook portion of at least one vertical strap **110** projecting downward from a span **306**, as best seen in FIG. 5. In such embodiments, the j-hook portion of the strap **110** faces toward the interior side of the to-be-constructed wall in order to receive the support **108**. In some embodiments, the span **306** comprises a slot **111** that is sized and shaped to receive the vertical strap **110**. In some embodiments, the span **306** comprises a plurality of slots **111** on the downward facing surface and a plurality of corresponding slots **111** on the upward facing surface. In such embodiments, the strap **110** passes through the span **306** and projects from the top and bottom faces thereof. In some embodiments, the strap **110** comprises an embedment line **112**, which identifies the lower portion of the strap should be submerged within the wall material (e.g., concrete).

In some embodiments, the foundation assembly **200** comprises a plurality of form boards **202** for framing out a slab C1. The form boards **202** can be any suitable material, including, e.g., wood, metal, polymer or a composite material. In some embodiments, the form boards **202** are positioned horizontally with the width of the board having one face in the direction of the interior side of the to-be-constructed wall and the opposite face of the board in the direction of the exterior side of the to-be-constructed wall. The slab C1 can be any suitable material for a building foundation, including, for example, stone, wood, concrete, etc.

The form boards **202** can be any suitable size, including, for example, 1"×12"; 1"×10"; 1.5"×12"; 1.5"×10"; 2"×12"; or 2"×10"; or 4"×12" or 4"×10"; etc. (height×width in inches). All dimensions are interchangeable and/or combinable. The size of the form board **202** is selected based on the desired size of the wall and building structure to be constructed, the local or regional code of building regulations, the terrain where the structure will lay, and/or the preferences of the builder.

In some embodiments, the foundation assembly **200** comprises at least one keyboards **204**. In some embodiments, the top surface of the keyboards **204** is flush with the top surface of the form boards **202**. In some embodiments, the keyboards **204** are removable; and, when the keyboards **204** are removed, a keyway is provided in the slab C1. In some embodiments, the keyboards **204** are fastened from the external side **101b** of the form boards **202**. The fastener can be any suitable fastener (e.g., screw, nail), and may be removable from the external side **101b**.

The keyboards **204** can be any suitable size, including, for example, 1"×4"; or 1"×3"; or 1"×2.75"; or 1"×2"; or 1"×1.5"; or 1.5"×4"; or 1.5"×3"; or 1.5"×2.75"; or 1.5"×1.5"; or 2"×4"; 2"×3"; 2"×2.75"; or 2.75"×1.5"; or 2.75"×2" or 2.75"×2.5"; etc. (height×width in inches). All dimensions are interchangeable and/or combinable. The size of the keyboard **204** is selected based on the desired size of the keyway, the local or regional code of building regulations, and/or the preferences of the builder.

In some embodiments, the framing assembly **300**, or components thereof, is/are removeable and reusable. In some embodiments, the framing assembly **300** comprises a plurality of vertical supports **302**. The supports **302** are structured to be vertically disposed in an underlying surface, in spaced apart relation from one another, and appropriately secured in place. The supports **302** can be any suitable material, including, for example, steel rebar. In this context, a suitable material means the supports **302** are strong enough to hold up an arrangement of support headers **304**, spans **306**, and associated components without bending. In other words, the supports **302** should maintain a linear or substantially linear shape throughout the process. In some embodiments, the keyboards **204** are adapted to receive the vertical supports **302**. For example, a notch **205** can be cut out or otherwise be displaced from the keyboard **204** in the appropriate size and shape to securely receive the support **302**. The supports **302** can be any suitable length (i.e., to accommodate a suitable height from the surface of the ground). In some embodiments, the supports **302** are structured to be one inch, or 2", or 3", or 4", etc., from the desired wall height.

In some embodiments, the framing assembly **300** comprises at least one support headers **304**. In particular, a support header **304** is structured to be removably disposed on an exposed end of each of the supports **302** that have been previously anchored in the underlying surface (e.g., ground). In some embodiments, each of the support headers **304** includes a mounting hub that removably engages (e.g., a tubular opening that receives) the exposed end of the supports **302**, such that after construction of a wall section and/or the entire structure, the support header **304** can be removed from its engaged relation with the supports **302** and reused at a subsequent location. In some embodiments, support headers **304** are structured to receive and removably engage and retain a span **306**. In some embodiments, a plurality of spans **306** are provided, each span structured to extend between adjacent supports **302** and their corresponding support headers **304**. Additional elements are contemplated for achieving effective and appropriate aligned positioning of the spans **306** between the adjacent supports **302**, but also allowing for appropriate removability of the support headers **304** and spans **306** for subsequent reuse.

In some embodiments, the framing assembly **300** comprises at least one vertical braces **308**. In such embodiments, the braces **308a** can be included on the interior side of the to-be-constructed wall and the braces **308b** can be included on the exterior side of the to-be-constructed wall. The vertical braces **308a**, **308b** can be any suitable material, including, for example, wood (e.g., 2"×4") (height×width). In some embodiments, the upper end of a plurality of vertical braces **308** is removably coupled to the span **306**. For example, in some embodiments, an upper portion of the vertical braces **308** are coupled to the span **306** using a horizontal strap **312** projecting out from the span **306**. In some embodiments, the span **306** comprises at least one slots **313** configured to receive the strap **312**. In some embodiments, the span **306** comprises a slot **313a** on the interior side of the span **306** and a slot **313b** on the exterior side of the span. In such embodiments, the slots **313a**, **313b** are arranged on the opposing faces of the span **306** so the strap **312** can pass entirely through the span **306**. In such embodiments, the straps **312** can be coupled to the interior vertical braces **308a** and the exterior vertical braces **308b**. In some embodiments, a plurality of interior vertical braces **308a** are

arranged at a lower end on the slab C1. In some embodiments, a plurality of exterior braces **308b** are arranged at a lower end on the ground.

In some embodiments, the framing assembly **300** comprises at least one horizontal braces **310**. In such embodiments, the braces **310a** can be included on the interior side of the to-be-constructed wall and/or the braces **310b** can be included on the exterior side of the to-be-constructed wall. The horizontal braces **310a**, **310b** can be any suitable material, including, for example, wood (e.g., 2'x4') (heightx width), dowl, steel rod, plastic rod, etc. In some embodiments, a plurality of interior horizontal braces **310a** are removably coupled to at least one components of the wall assembly **102**. For example, in FIG. 1, the braces **310a** are coupled to the interior expanded metal mesh sheets **104a**. Other configurations are contemplated (e.g., the braces **310a** can be coupled to the vertical braces **308a**). In some embodiments, a plurality of exterior horizontal braces **310b** are removably coupled to the exterior vertical braces **308b**. Other configurations are contemplated (e.g., the braces **310b** can be coupled to the exterior expanded metal mesh sheet **104b**).

In some embodiments, the arrangement and connectivity of the vertical braces **308** and the horizontal braces **310** is configured to maintain the integrity of the desired shape and thickness of the to-be-constructed wall, as dictated in some embodiments by the spacing between the interior expanded metal mesh sheets **104a** and the exterior expanded metal mesh sheets **104b** (the spaced distance including the welded wire mesh sheet **106** therebetween).

In various embodiments, a method for constructing a building structure, including a plurality of sidewalls, is provided. In some embodiments, the method comprises installing the form boards **202** about 3/4" (0.75") outside of the desired dimensions (e.g., perimeter) of the to-be-constructed walls. Next, a keyboard **204** sized about 2.75"x1.5" (widthxheight in inches) is attached on the interior side of the form boards **202**. In such embodiments, the form board **202** is lying vertical on its side and the keyboard **204** is laid flat so its top surface is flush with the top of the form board **202**. The keyboard **204** is sized and shaped to form a keyway in the concrete slab when removed. In some embodiments, the keyboards **204** are attached from the outside surface of the form board **202** with a fastener (e.g., screw, nail) that can be removed later. In some embodiments, the top surface of the form board **202** and the top surface of the keyboard **204** are marked to indicate where the vertical support **302** will be positioned. A notch **205** in the keyboard is then cut out in an appropriate size and shape for accepting the vertical support **302**. In some embodiments, supports **302** are installed in all corners and/or locations where a support is needed for the support headers **304**. The supports **302** are anchored below the desired footer, and the top of the support **302** is about 2" above the desired wall height. In some embodiments, when installed, the bottom surface of the spans **306** will be about 3" higher than the wall after construction. In some embodiments, the about 3" gap between the bottom surface of the span **306** and the top of the wall above will provide a sufficient gap for pouring in wall material (e.g., pumping concrete in).

In some embodiments, once the vertical supports **302** are stable, the slab steel is placed with the slab mesh extending up the wall approximately 18" to form a starter steel for the wall. In some embodiments, the starter steel is beneficial, but in some instances is optional. In such embodiments, the vertical supports **302**, the support headers **304**, and spans **306** would be installed before the slab C1 is formed.

Once the supports **302**, support headers **304**, and spans **306** are installed, the vertical straps **110** are installed with the j-hook facing the interior side of the to-be-constructed wall. Next, the welded wire mesh **106** is suspended from vertical straps **110**. In some embodiments, the bottom of the welded wire mesh **106** extends into the footer and supports the footer support bars, and then slab steel is installed. In some embodiments, horizontal braces **108** are installed one in the vertical straps **110**. In some embodiments, the slab C1 is then formed, and the keyboards **204** are removed.

In some embodiments, with the keyboards **204** removed, the exterior expanded metal mesh sheets **104a**, **104b** is inserted in the keyway **114**, and optionally coupled to the form board **202**, which is still in place. The top surface of the expanded metal mesh sheets **104b** should be about 3" below the spans **306** designating the height of the finished wall. In some embodiments, the bottom surface of the interior expanded metal mesh sheets **104a** rest on the slab C1 and braced by a removable wood board (e.g., 2"x4") attached to the slab C1. The top portion of the interior expanded metal mesh sheets **104a** is supported by an arrangement of at least one vertical braces **308** and at least one horizontal braces **310**. In such embodiments, the at least one vertical braces **308** are coupled to the span **306** using horizontal straps **312**.

In some embodiments, cut outs in the structure of the system **100** are made for windows. In some embodiments, the wall material (e.g., concrete) is then pumped in between the spaced distance between the internal expanded metal mesh sheets **104a** and the external expanded metal mesh sheets **104b** to obtain the desired wall (e.g., C2 and C3 combined). Once the wall is formed, with the top of the wall meeting the top of the expanded metal mesh sheets **104**, the spans **306**, support headers **304**, supports **302**, and form boards **204** can be removed, and the walls are ready to receive roofing trusses, which will be attached to the vertical straps **110**.

The following description of variants is only illustrative of components, elements, acts, products, and methods considered to be within the scope of the invention and are not in any way intended to limit such scope by what is specifically disclosed or not expressly set forth. The components, elements, acts, products, and methods as described herein may be combined and rearranged other than as expressly described herein and are still considered to be within the scope of the invention.

Variation 1 may include a building system for forming at least one to-be-constructed structure, including a wall assembly including a plurality of expanded metal mesh sheets and at least one welded wire mesh sheet; a foundation assembly including a plurality of form boards for framing out a slab and at least one keyboards coupled to the form boards; and a framing assembly including a plurality of vertical supports structured to be vertically disposed on an underlying surface, the plurality of vertical supports being in a spaced apart relation from one another, each having an exposed end to removably engage with a support header, and a plurality of spans structured to extend between and be received by adjacent vertical supports.

Variation 2 may include a building system as in variation 1, wherein the wall assembly further includes a plurality of expanded metal mesh sheets and a welded wire mesh sheet disposed between the two expanded metal mesh sheets.

Variation 3 may include a building system as in any of variations 1 through 2, wherein each of the plurality of expanded metal mesh sheets are positioned a distance from

7

one another, the distance between each of the plurality of expanded metal mesh sheets being the thickness of a to-be-constructed wall.

Variation 4 may include a building system as in any of variations 1 through 3, wherein the wall assembly further includes at least one vertical strap including a j-hook.

Variation 5 may include a building system as in any of variations 1 through 4, wherein the at least one vertical strap extends downward from at least one of the plurality of spans and wherein the j-hook is positioned towards an interior side of a to-be-constructed wall in order to receive a support.

Variation 6 may include a building system as in any of variations 1 through 5, wherein at least one of the plurality of spans defines a slot sized and shaped to receive the vertical strap therein.

Variation 7 may include a building system as in any of variations 1 through 6, wherein the span defines a plurality of slots on a downward facing surface of the span and further defines a plurality of corresponding slots on an upward facing surface of the span.

Variation 8 may include a building system as in any of variations 1 through 7, wherein the wall assembly further includes at least one vertical strap including a j-hook an defines an embedment line constructed and arranged to identify a lower portion of the strap to be disposed within a wall material during use.

Variation 9 may include a building system as in any of variations 1 through 8, wherein the wall assembly further includes at least one horizontal support positioned laterally between adjacent vertical supports constructed and arranged to seat within at least one j-hook of at least one strap.

Variation 10 may include a building system as in any of variations 1 through 9, wherein the at least one keyboards are removable and constructed and arranged to define a keyway in a to-be-constructed slab.

Variation 11 may include a building system as in any of variations 1 through 10, wherein the framing assembly includes at least one vertical brace disposed on an interior side and an exterior side of a to-be-constructed wall wherein the at least one vertical brace is removably coupled to the span.

Variation 12 may include a building system as in any of variations 1 through 11, wherein the framing assembly includes at least one exterior horizontal brace removably coupled to the exterior vertical braces.

Variation 13 may include a building system as in any of variations 1 through 12, wherein arrangement and connectivity of the at least one vertical brace and the at least one horizontal brace is configured to maintain the integrity of the desired shape and thickness of a to-be-constructed structure.

According to variation 14, a method for forming at least one to-be-constructed structure may include installing a plurality of form boards approximately outside of desired dimensions of at least one to-be-constructed wall; attaching a keyboard on an interior side of the plurality of form boards such that a top surface of the keyboard is flush with a top of at least one of the plurality of form boards, wherein the keyboard is sized and shaped to define a keyway in the at least one to-be-constructed wall; defining at least one notch in the keyboard to receive at least one vertical support; installing at least one vertical support anchored below a desired footer, the at least one vertical support being constructed and arranged to support at least one support header; installing at least one span constructed and arranged to extend between adjacent vertical supports and support headers; installing at least one vertical strap within the at least one span, the at least one vertical strap including a j-hook

8

where in installing the at least one vertical strap includes positioning the j-hook toward an interior side of a to-be-constructed wall; suspending at least one welded wire mesh from the at least one vertical strap; installing at least one vertical brace; installing at least one horizontal brace within the j-hook; forming at least one slab; removing the at least one keyboard; installing at least one metal mesh sheet; and installing a wall material within the at least one metal mesh sheet to form the at least one to be constructed structure.

Variation 15 may include a method for forming at least one to-be-constructed structure as in variation 14, wherein installing a wall material within the at least one mesh sheet to form the at least one to-be-constructed structure includes pouring concrete.

Variation 16 may include a method for forming at least one to-be-constructed structure as in any of variations 14 through 15 wherein installing at least one metal mesh sheet further includes coupling the at least one metal mesh sheet to at least one form board.

Variation 17 may include a method for forming at least one to-be-constructed structure as in any of variations 14 through 16 wherein the at least one metal mesh sheet is supported by an arrangement of at least one vertical brace and at least one horizontal brace.

Variation 18 may include a method for forming at least one to-be-constructed structure as in any of variations 14 through 17 further including removing the plurality of spans, support headers, plurality of vertical supports, and form boards.

Variation 19 may include a method for forming at least one to-be-constructed structure as in any of variations 14 through 18 further including forming cut outs in at least one of the plurality of spans, support headers, plurality of vertical supports, at least one welded wire mesh, at least one metal mesh sheet, and form boards for windows.

According to variation 20, a method for forming at least one to-be-constructed structure may include installing a plurality of form boards approximately outside of desired dimensions of at least one to-be-constructed wall; attaching a keyboard on an interior side of the plurality of form boards such that a top surface of the keyboard is flush with a top of at least one of the plurality of form boards, wherein the keyboard is sized and shaped to define a keyway in the at least one to-be-constructed wall; defining at least one notch in the keyboard to receive at least one vertical support; installing at least one vertical support anchored below a desired footer, the at least one vertical support being constructed and arranged to support at least one support header; installing at least one span constructed and arranged to extend between adjacent vertical supports and support headers; installing at least one vertical strap within the at least one span, the at least one vertical strap including a j-hook where in installing the at least one vertical strap includes positioning the j-hook toward an interior side of a to-be-constructed wall; suspending, within the keyway, at least one welded wire mesh from the at least one vertical strap; installing at least one vertical brace; installing at least one horizontal brace within the j-hook; connecting the at least one vertical brace and the at least one horizontal brace, wherein arrangement and connectivity of the at least one vertical brace and the at least one horizontal brace is configured to maintain the integrity of the desired shape and thickness of a to-be-constructed structure; forming at least one slab; removing the at least one keyboard; installing, within the keyway, a first metal mesh sheet; installing, within the keyway, a second metal mesh sheet such that the at least one welded wire mesh is disposed between and

spaced from both the first metal mesh sheet and second metal mesh sheet; and pouring concrete within the keyway and between the first metal mesh sheet and second metal mesh sheet to form the at least one to-be-constructed structure.

Many different embodiments have been disclosed herein, in connection with the above description and the drawings. It will be understood that it would be unduly repetitious and obfuscating to describe and illustrate every combination and subcombination of these embodiments. Accordingly, all embodiments can be combined in any way and/or combination, and the present specification, including the drawings, shall be construed to constitute a complete written description of all combinations and subcombinations of the embodiments described herein, and of the manner and process of making and using them, and shall support claims to any such combination or subcombination.

An equivalent substitution of two or more elements can be made for any one of the elements in the claims below or that a single element can be substituted for two or more elements in a claim. Although elements can be described above as acting in certain combinations and even initially claimed as such, it is to be expressly understood that at least one element from a claimed combination can in some cases be excised from the combination and that the claimed combination can be directed to a subcombination or variation of a subcombination.

It will be appreciated by persons skilled in the art that the present embodiment is not limited to what has been particularly shown and described hereinabove. A variety of modifications and variations are possible in light of the above teachings without departing from the following claims.

I claim:

1. A building system for forming at least one to-be-constructed structure, comprising:

a wall assembly comprising a plurality of expanded metal mesh sheets and at least one welded wire mesh sheet;  
a foundation assembly comprising a plurality of form boards for framing out a to-be-constructed slab and at least one keyboard removably coupled to the form boards, wherein the at least one keyboard is removable and constructed and arranged to define a keyway in the to-be-constructed slab; and

a framing assembly comprising:

a plurality of vertical supports structured to be vertically disposed on an underlying surface, each of the plurality of vertical supports being in a spaced apart relation from one another, each of the plurality of vertical supports having an exposed end to removably engage with one of a plurality of support headers, and

a plurality of spans, wherein each of the plurality of spans is structured to extend at least partially between adjacent vertical supports of the plurality of vertical supports, and wherein each of the plurality of spans is structured to extend between and be received by corresponding support headers of the plurality of support headers;

wherein the plurality of spans is configured to allow for removability of the plurality of support headers and the plurality of spans for subsequent reuse; and

wherein the at least one keyboard includes a notch that receives a first vertical support of the plurality of vertical supports.

2. The building system as in claim 1, wherein the at least one welded wire mesh sheet is disposed between a pair of expanded metal mesh sheets of the plurality of expanded metal mesh sheets.

3. The building system as in claim 2, wherein each of the plurality of expanded metal mesh sheets is positioned a distance from one another, the distance between each of the plurality of expanded metal mesh sheets equaling a thickness of a to-be-constructed wall.

4. The building system as in claim 1, wherein the wall assembly further comprises at least one vertical strap comprising a j-hook.

5. The building system as in claim 4, wherein the at least one vertical strap extends downward from at least one of the plurality of spans and wherein the j-hook is positioned towards an interior portion of a to-be-constructed wall in order to receive a horizontal brace.

6. The building system as in claim 1, wherein at least one of the plurality of spans defines a slot sized and shaped to receive a vertical strap therein.

7. The building system as in claim 1, wherein at least one span of the plurality of spans defines a plurality of slots on a downward facing surface of the at least one span and further defines a plurality of corresponding slots on an upward facing surface of the at least one span, the plurality of slots and the plurality of corresponding slots being constructed and arranged to receive vertical straps therein.

8. The building system as in claim 1, wherein the wall assembly further comprises at least one vertical strap comprising a j-hook and defines an embedment line constructed and arranged to identify a lower portion of the at least one vertical strap to be disposed within a wall material during use.

9. The building system as in claim 1, wherein the wall assembly further comprises at least one horizontal support positioned laterally between adjacent vertical supports of the plurality of vertical supports, wherein the at least one horizontal support is constructed and arranged to seat within at least one j-hook of at least one strap.

10. The building system as in claim 1, wherein the at least one keyboard is removably fastened to the form boards.

11. The building system as in claim 1, wherein the framing assembly comprises at least one vertical brace disposed on at least one of an interior side or an exterior side of a to-be-constructed wall, and at least one horizontal strap extending from a span of the plurality of spans, wherein the at least one vertical brace is removably coupled to the at least one horizontal strap.

12. The building system as in claim 11, wherein the framing assembly comprises at least one exterior horizontal brace removably coupled to a second vertical support of the plurality of vertical supports.

13. The building system as in claim 12, wherein the at least one vertical brace and the at least one exterior horizontal brace are configured to maintain the integrity of the desired shape and thickness of a to-be-constructed structure.